

**Experimental Snow Ratio Grids in the National Digital Forecast Database (NDFD) for the
Central Region
Product Description Document
February 2022**

Part I – Mission Connection

- a. Product Description** - Weather Forecast Offices (WFOs) across the contiguous U.S. (CONUS) predict the snow ratio, or snow-to-liquid ratio (SLR) averaged over a 6-hour period. This value, defined as the ratio of snow accumulation to its melted liquid equivalent, is often used to quantify the consistency of snow, ranging from light and fluffy snow to heavy wet snow, and is therefore important for decision support. It is a critical component for ensuring consistency of quantitative precipitation forecasts (QPF) to snow amounts.

Initially, the Snow Ratio grid will be available for the following WFOs:

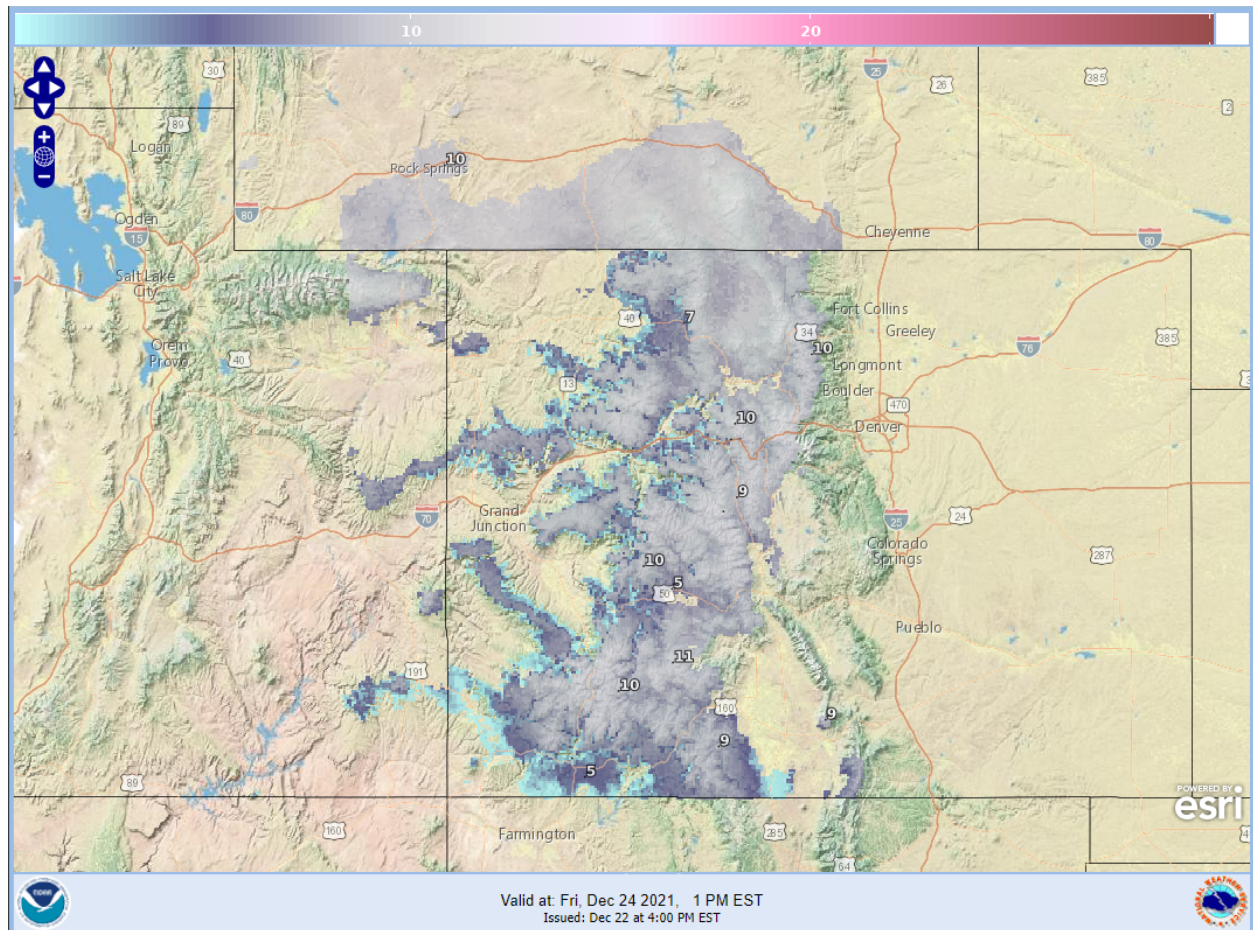
In the Central Region of the United States: Aberdeen, SD, Bismarck, ND, Cheyenne, WY, Chicago, IL, Davenport, IA, Denver/Boulder, CO, Des Moines, IA, Detroit, MI, Dodge City, KS, Duluth, MN, Eastern North Dakota/Grand Forks, ND, Goodland, KS, Grand Junction, CO, Grand Rapids, MI, Green Bay, WI, Hastings, NE, Indianapolis, IN, Jackson, KY, Kansas City/Pleasant Hill, MO, LaCrosse, WI, Lincoln, IL, Louisville, KY, Marquette, MI, Milwaukee/Sullivan, WI, Minneapolis/Chanhassen, MN, North Platte, NE, NC Lower Michigan/Gaylord, MI, Northern Indiana/Syracuse, IN, Omaha, NE, Paducah, KY, Pueblo, CO, Rapid City, SD, Riverton, WY, Sioux Falls, SD, Springfield, MO, St. Louis, MO, Topeka, KS, Wichita, KS

- b. Purpose** - This product supports advanced planning of hazardous winter weather for internal NWS and external partners. It is also an important part of the NWS Weather Ready Nation (WRN) initiative helping to ensure society is ready for, and responds appropriately to, extreme events including winter weather. The WRN strategic priority is about building community resilience in the face of increasing vulnerability to extreme weather, water, climate, and environmental threats.

By providing improved decision making information, users can better prepare for winter storms which paralyze cities and regions for days, and cost billions in cleanup and lost productivity. Improved community emergency preparedness will thus lead to the avoidance of fatalities from weather dependent events; cost avoidance from unnecessary evacuations and reduced property damage and more rapid postevent recovery.

- c. Audience** - The target audience includes NWS forecasters, the emergency management community, and anyone interested in winter weather forecasts.
- d. Presentation Format** - The experimental grids will be available for download in GRIB format, via Extensible Markup Language (XML) at

<https://digital.mdl.nws.noaa.gov/xml/> , and for viewing in the NDFD Map Viewer at <https://digital.mdl.nws.noaa.gov/>.



- e. **Feedback Method** - Comments regarding this experimental grid in NDFD, for eventual implementation at WFOs across NWS, may be provided via electronic survey: https://www.surveymonkey.com/r/ExpSnowRatioGrids_NDFD_2022

Comments may also be provided to:

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For general questions regarding the National Digital Forecast Database, please email: nws.ndfd@noaa.gov

Part II – Technical Description

a. Format and Science Basis - The Snow Ratio grid, averaged over a 6-hour period, will be derived from WFO NDFD QPF06 and Snow06 grids where QPF is greater than or equal to 0.1”.

b. Product Availability – These grids will be available in NDFD every 6 hours out to 72 hours from 0000 UTC Day 1 when new forecast projections are introduced at 2200 UTC on Day 0, and out to 84 hours from 0000 UTC Day 1 beginning at 1100 UTC Day 1. The SnowRatio grids represent an average over the 6 hour period and will be available during the entire year.

c. Additional Information – Detailed information about the NDFD is also available online at https://www.weather.gov/mdl/ndfd_home.